

Application No. 10/807,409

Attny. Docket No. 505US

**REMARKS****I. STATUS OF THE CLAIMS**

Claims 1 – 31 have been cancelled. Claims 32 – 53 are new. No new matter has been added.

**II. DOUBLE PATENTING REJECTION**

The Office has provisionally rejected claims 1 – 31 on the grounds of nonstatutory obviousness-type double patenting in view of claims 1 – 20 of copending Application No. 10/882,871.

Applicants will consider filing a terminal disclaimer directed to the '871 application in the event that the pending claims are found to be allowable.

**III. DEFECTIVE DECLARATION**

The Office has indicated that the previously presented oath is defected due to an un-initialed correction to an inventor's address. A supplemental declaration is currently being prepared and will be submitted in due course.

**IV. PRIOR ART REJECTIONS**

The Office has rejected claims 1 – 31 under 35 U.S.C. §103(a) as being obvious over US 2003/0003269 (Lee) in view of US 5,518,801 (Chappell). Specifically, the Office states that Lee teaches an apertured elastic film having large elongated cells in rows and smaller apertures arranged in a pinwheel configuration. The Office further states that Chappell teaches an embossing process to impart retraction ability on a film.

The Office has also rejected claims 1 – 13 and 18 – 31 under 35 U.S.C. §103(a) as being obvious over US 6,472,045 (Morman) in view of US 2003/0021951 (Desai). Specifically, the Office states that Morman teaches an apertured web laminate that extends and contracts and that Desai teaches using an elongated apertured web to

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preserve the open space in the web when the apertures are stretched perpendicularly to their axes.

**A. CLAIMED INVENTION:**

The claimed invention relates to stretchable webs having superior retractive qualities. In particular, webs constructed of certain materials, including inelastic materials, are made stretchable, at least in part, by the inclusion of a plurality of cells having an aspect ratio of from about 5 to about 15, wherein the cells are aligned along their elongated axis so as to provide stretchability in a direction perpendicular to the alignment. In general, increasing the aspect ratio of the cells contributes to the overall stretchability of the web in a direction perpendicular to the elongated axis. However, alone such an arrangement of elongated cells, while stretchable, are generally not elastic (i.e., the material can be extended in a direction perpendicular to the alignment, but it is generally not capable of returning to its initial form or state after deformation). Webs of the present invention are made retractive, at least in part, by including a retractive force mechanism disposed so as to increase the retractive force of the cells in a direction opposite to the direction of their mechanical elasticity.

According to the claimed invention, this retractive force mechanism can have one or more of the following aspects: (a) lanes of relatively smaller elongated cells positioned between lanes of larger elongated cells, wherein the smaller cells are aligned in the same direction as the larger cells, but have a relatively smaller aspect ratio; (b) a reinforcing layer bonded to the web via an adhesive applied in a zig-zag pattern; (c) a second three-dimensional webbed material bonded to the first webbed material, wherein the second webbed material has elongated cells that are aligned in a direction that is not parallel to the cell alignment of the first webbed material; and (d) bridging elements extending across at least a portion of the first plurality of elongated cells in a direction orthogonal to the cells' alignment and having edges offset from the cell's distal ends.

With respect to aspect (a), the elongated cells of smaller size and aspect ratio are aligned in the same direction as the larger elongated cells, but are situated in separate lanes and have a relatively lower aspect ratio, thus improving the retractability of the

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webbing. With respect to aspect (b), the adhesive is applied in a zig-zag pattern to improve the retractability of the webbing in a direction that is parallel to a vector of the zig-zag pattern. With respect to aspect (c), the second plurality of elongated cells are aligned in a direction different than the first plurality of cells. As a result, the second plurality of cells creates a retractive force along a vector that is opposite to the direction of stretchability of the first webbed material. With respect to aspect (d), the bridging element is positioned orthogonal to the alignment of the cells, thereby providing a retractive mechanism in a direction opposite to the direction of stretchability.

## **B. PRIOR ART REFERENCES**

### **1. US 2003/0003269 (Lee)**

Lee discloses a polymeric film web having a three-dimensional, microapertured surface that is provided with a multiplicity of comparatively larger apertures. The larger apertures, which can be elongated, are taught only for their fluid management properties. Moreover, the larger apertures are disposed in the mists of smaller microapertures – i.e., the larger elongated aperture are not organized into rows consisting essentially of the larger apertures. Lee does not teach or suggest that the relatively smaller apertures, which are taught for their tactile impression, are elongated or are characterized by a particular aspect ratio.

### **2. US 5,518,801 (Chappell)**

Chappell discloses a web-like material having a first region of flat material and a second region of raised ribs. When tension is applied in the direction of alignment, the first region undergoes molecular deformation, while the second region of raised ribs undergoes geometric deformation. The web-like material taught by Chappell may be applied to two-dimensional and three-dimensional apertured films. However, Chappell does not teach apertured films having rows consisting of relatively larger elongated cells disposed between rows of smaller elongated cells, and particularly does not suggest smaller elongated cells having an aspect ratio less than the aspect ratio of the larger cells.

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**3. US 6,472,045 (Morman)**

Morman discloses an apertured laminate having striated rugosities (i.e., wrinkles). These striated rugosities provide extensibility and retractibility to the non-apertured portions of the laminate. More particularly, as a biasing force is applied in a direction transverse to the striation, the rugosities are temporarily removed (as opposed to being stretched). However, Morman does not teach or suggest lanes of smaller elongated cells disposed between lanes of larger elongated cells.

**4. US 2003/0021951 (Desai)**

Desai discloses an apertured nonwoven web formed from a patterned calendar roller. Desai further discloses that the aspect ratio of these apertures contribute to the overall extensibility of the web.

**C. ARGUMENT**

The cited references, either alone or in combination, fail to teach or suggest all of the elements of the pending claims. It is incontrovertible that, to establish a *prima facie* showing of obviousness, the cited reference or combination of references must include each and every aspect of the claimed invention. MPEP 2143. As discussed in more detail below, all of the elements of the claims, as currently amended, are not taught by a combination of Lee, Chappell, Morman, and Desai. For at least these articulated reasons, the Office's rejection is respectfully traversed.

- 1. The cited references do not teach lanes of relatively smaller elongated cells disposed between lanes of larger elongated cells, where the smaller elongated cells have an aspect ratio less than the aspect ratio of the larger elongated cells.**

With respect to claims 32 – 37, the cited references do not teach or suggest lanes of comparatively smaller, elongated cells between lanes of larger elongated cells, wherein the smaller elongated cells have an aspect ratio that is less than the aspect ratio of the larger elongated cells.

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As indicated above, Lee teaches large elongated fluid-transport apertures arranged in rows on a three-dimensional microapertured structure. The microapertures are taught as improving the tactile impression of the film and, while being smaller than fluid-flow apertures, are not disclosed as being elongated – let alone having an aspect ratio lower than the aspect ratio of the corresponding larger apertures. In addition, the larger apertures are not taught as being disposed in rows consisting essentially of the elongated cells.

The other cited references likewise do not teach this aspect of the claimed invention: i.e., Chappell suggests that its raised ribs may be applied to an apertured film, but does not teach any particular size or relative aspect ratio of the apertures; Morman teaches an apertured material, but refers to apertures only in the generic sense (it is unspecific regarding the particular size, shape, orientation, or aspect ratio of the apertures); Desai discloses the nonwoven webs having patterned apertures with specific aspect ratios, but does not teach the use of smaller cells having a relatively larger aspect ratio.

In view of the teaching of the cited references, it is clear that none of the references teach or suggest a webbed material having two different sizes of elongated cells, wherein the smaller elongated cells have an aspect ratio greater than the aspect ratio of the larger elongated cells.

**2. The cited references do not teach a reinforcing layer that is bonded to a webbed material via an elastomeric adhesive applied in a zig-zag pattern.**

With respect to claims 32 and 38 – 39, the cited references do not teach or suggest a reinforcing layer that is bonded to a webbed material via an adhesive applied in a zig-zag pattern. More particularly, Lee, Chappell, Morman, and Desai each disclose a multilayer composite or laminate having layers that are bonded together via an adhesive or chemical bond, but of these, only Morman teaches a particular bonding pattern. However, even Morman does not teach or suggest the presently claimed zig-zag bonding pattern or the benefits that may be derived therefrom. Instead, Morman merely teaches that the bonding points may be arranged in different arrays, each of which are characterized by their particular bond area.

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In view of the teaching of the cited references, it is clear that none of the references teach or suggest a webbed material bonded to a reinforcing layer via an elastomeric adhesive applied in a zig-zag pattern.

- 3. None of the cited references teach or suggest a first web having a plurality of aligned elongated cells and a second web having a plurality of aligned elongated cells, wherein the cell alignment of the first web is nonparallel to the cell alignment of the second web.**

With respect to claims 32 and 40 – 45, none of the cited references teach or suggest the use of two webbed materials each having a plurality of aligned elongated cells, wherein the cell alignment of the first web is nonparallel to the cell alignment of the second web. More specifically, Lee and Chappell both disclose a multi-ply composite which may consist of various combinations of apertured and nonapertured materials, but does not teach the apertures' respective alignments. Desai's teachings are limited to nonwoven/film laminates that are simultaneously apertured, while Morman does not even teach the use of more than one apertured layer.

In view of the teaching of the cited references, it is clear that none of the references teach or suggest webbed material having a plurality of aligned elongated cells and a second webbed material having a plurality of aligned elongated cells, wherein the alignment of the first web is not parallel to the alignment of the second web.

- 4. None of the cited references teach a webbed material having a bridging element extending across elongated cells in a direction parallel to the cell's minor axes.**

With respect to claims 32 and 46 – 53, the cited references do not teach, either implicitly or explicitly, a bridging element that extends across elongated cells in a direction parallel to the cells' minor axes. In fact, these references are complete devoid of any suggestion of such a bridging element or the benefits that may be derived therefrom. Applicants note that the Office has not presented any arguments that this aspect of the invention is taught or suggested by the cited references.

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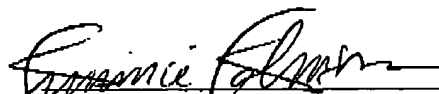
**V. CONCLUSION**

In view of the proposed claim amendments and the arguments presented above, the present application is believed to be in condition for allowance and an early notice thereof is earnestly solicited. The Office is invited to contact the undersigned counsel in order to further the prosecution of this application in any way.

Respectfully submitted,

Dated: \_\_\_\_\_

9/28/06

  
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